

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Canceled)
2. (Currently amended) A method of testing a currency item in a currency testing apparatus comprising:
  - deriving a plurality of measurements of the currency item at a resolution (R) defined relative to the spacing of a plurality of sensing elements;
  - processing the measurements to derive values ~~at a~~ in at least two different resolutions, wherein the resolution is increased in the spatial domain using an interpolation method, increased resolution values in the spatial domain being used to recognize the currency item, and wherein the resolution is reduced in the spectral domain, the method reduction of the resolution in the spectral domain comprising filtering a signal of the measurements measured values in the spectral domain to reduce the resolution in the spectral domain by taking a subset of the set of signal's spectral components; and
  - deriving a feature vector using the subset of spectral components, the feature vector being used to denominate the currency item,
  - wherein the method is performed by the currency testing apparatus.
3. (Original) A method as claimed in claim 2 wherein the subset is of a predetermined size.
4. (Previously Presented) A method as claimed in claim 2 wherein the spectral domain is the frequency spectrum.

5. (Original) A method as claimed in claim 4 wherein the filtering excludes high frequency components.
6. (Currently amended) A method as claimed in claim 2 wherein the signal of the measurements ~~measured values~~ is normalized, ~~preferably by a mean value~~, before filtering.
7. (Canceled)
8. (Previously presented) A method as claimed in claim 2 comprising processing the feature vector using a neural network, including a backpropagation network or an LVQ network.
9. (Canceled)
10. (Currently amended) A method as claimed in claim ~~[[9]]~~ 2 wherein measurements are derived at a first resolution R1 in a first spatial direction and at a second resolution R2 in a second spatial direction.
11. (Original) A method as claimed in claim 10 wherein the first and second directions are substantially perpendicular
12. (Previously presented) A method as claimed in claim 10 wherein  $R1 < R2$ , and wherein the processing increases the resolution in the first direction to approximately R2.
13. (Previously presented) A method as claimed in claim 2 involving a method of reconstituting a sampled signal.
14. (Previously presented) A method as claimed in claim 2 involving summing measured values weighted by a weighting function.

15. (Original) A method as claimed in claim 14 wherein the weighting function is of the form  $\sin(x)/x$ .

16. (Previously presented) A method as claimed in claim 2 including using a weighting window to compensate for edge effects.

17. (Currently amended) A method as claimed in claim 16 wherein the weighting window is a raised cosine window ~~such as~~ that comprises a Hamming or Hanning or Kaiser-Bessel window.

18. (Currently amended) A method as claimed in claim [[9]] 2 comprising removing ~~[[the]]~~ a mean of the measurements ~~measured values~~ before interpolation and reinstating it after interpolation.

19. (Currently amended) A method as claimed in claim 2 wherein the measurements ~~measured values~~ are derived along a line substantially parallel to one edge of the currency item ~~document~~.

20. (Canceled)

21. (Canceled)

22. (Currently amended) A method as claimed in claim 2 ~~for testing~~ wherein the currency item is a document, banknote or other value sheet.

23. (Currently amended) A method as claimed in claim 2 ~~for testing~~ wherein the currency item is a coin.

24. (Canceled)

25. (Original) A currency tester ~~as claimed in claim 24~~ comprising:

~~means for sensing~~ sensors to derive a plurality of measurements of a currency item in the currency tester at a resolution (R) defined relative to a spacing of the sensors;

a processor coupled to the sensors and arranged to process the measurements to derive values in at least two different resolutions, wherein the resolution is increased in the spatial domain using an interpolation method, and wherein the resolution is reduced in the spectral domain, reduction of the resolution in the spectral domain by the processor comprises filtering a signal of the measurements in the spectral domain to reduce the resolution in the spectral domain by taking a subset of the signal's spectral components, wherein the processor is further arranged to derive a feature vector using the subset of spectral components, and

wherein the processor is arranged to use increased resolution values in the spatial domain to recognize the currency item and to use the feature vector to denominate the currency item.

26. (Original) A currency tester as claimed in claim 25 comprising means for sensing a currency item at resolution R1 extending in a first direction and means for sensing a currency item at a resolution R2 in a second direction.

27. (Original) A currency tester as claimed in claim 25 comprising a linear sensor array of resolution R1 and means for moving the currency item relative to the sensor array at a resolution R2.

28. (Canceled)

29. (Currently amended) A currency tester as claimed in claim ~~[[24]]~~ 25 arranged for testing a coin.

30. (Currently amended) A currency tester as claimed in claim [[24]] 25 arranged for testing a document, banknote or other value sheet.
31. (Currently amended) A currency tester as claimed in claim 30 arranged such ~~wherein~~ a document can be fed in ~~the~~ a transport path with skew and offset with respect to the edge of the transport path.
32. (Currently amended) A currency tester as claimed in claim 24 ~~which can~~ 25 arranged to process a plurality of currency items of different sizes.
33. (Canceled)
34. (New) A currency tested as in claim 25 wherein the subset is of a predetermined size.
35. (New) A currency tested as in claim 25 wherein the spectral domain is the frequency spectrum.
36. (New) A currency tested as in claim 25 wherein the processor is arranged to filter the signal of the measurements in the spectral domain by excluding high frequency components.
37. (New) A currency tested as in claim 25 wherein the processor is arranged to normalize the signal of the measurements before filtering the signal of the measurements in the spectral domain.
38. (New) A currency tested as in claim 25 wherein the processor is arranged to process the feature vector using a neural network, including a backpropagation network or an LVQ network.